

REMARKS

Upon entry of the Amendment, Claims 1-2 and 4-14 will be pending in the application. The subject matter of claim 3 has been incorporated into claim 1 and claim 3 has been canceled. Claims 13 to 15 are new. Support for claims 13 and 14 can be found in the specification, such as on page 6. Support for Claim 15 can be found in the specification, such as on page 39. Therefore, no new matter has been added.

Claims 5-12 are withdrawn from consideration. Claim 1 has been amended in an effort to advance the prosecution.

Claims 1-4 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent Nos. 5,412,053 and 5,589,562 to Lichtenhan *et al.* (collectively, "Lichtenhan"). U.S. Patent No. 5,589,562 issued from a continuation of the application for U.S. Patent No. 5,412,053. The citations below are based on U.S. Patent No. 5,589,562.

Applicants respectfully traverse.

Claim 1 presently recites that at least one of R₁ to R₁₇ in formula (I) includes at least one of:

- (i) at least one carbon-carbon triple bond;
- (ii) at least one of a carbon-carbon double bond and a carbon-nitrogen double bond that conjugates with an aromatic group; and
- (iii) at least one aromatic ring having at least 10 carbon atoms.

In contrast, Lichtenhan discloses a polymer containing alternating silsesquioxane and bridging group segments. *See* col. 2, lines 19-50. The silsesquioxane may be one of two

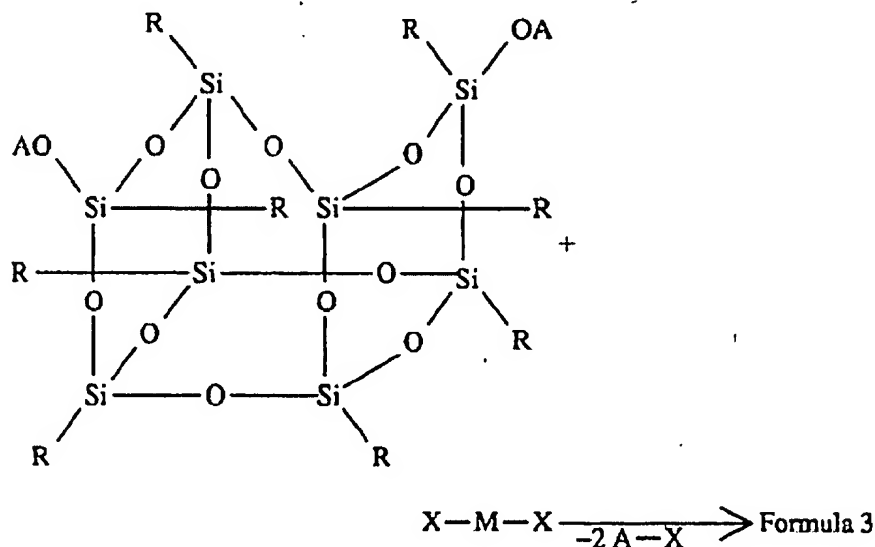
difunctional polyhedral silsequioxanes, as represented in formulas 1 and 2 thereof. In formula (2) thereof, R may generally be substituted or unsubstituted monovalent hydrocarbon groups having typically 1 to 20 carbon atoms. See col. 4, lines 13-22. Lichtenhan discloses as follows:

Examples of alkyl groups include methyl, ethyl, propyl, butyl, hexyl, heptyl, octyl, and cyclohexyl groups. The R groups may also include alkenyl groups such as vinyl, allyl, hexenyl, heptenyl, and octenyl groups, and aryl groups such as phenyl groups. Alkoxy groups include the alkyl groups listed above linked by an oxygen.

Id.

As the comonomer, the difunctional compound of general formula X-M-X is provided.

See col. 4, lines 54-67. The difunctional monomers are reacted in a hydrocarbon solvent at elevated temperatures and an inert atmosphere for a time sufficient for the step-growth condensation reaction to occur as shown below:



See col. 4, line 54 to col. 5, line 15.

Applicants respectfully submit that Lichtenhan fails to describe or fairly suggest a repeating unit represented by formula (I), where at least one of R_1 to R_{17} in formula (I) includes at least one of (i) at least one carbon-carbon triple bond; (ii) at least one of a carbon-carbon double bond and a carbon-nitrogen double bond that conjugates with an aromatic group; and (iii) at least one aromatic ring having at least 10 carbon atoms. While Lichtenhan generically discloses that the “R groups” thereof may include alkenyl groups such as a vinyl and the like, *see*, Lichtenhan at col. 4, lines 13-22, quoted above, Lichtenhan does not disclose a specific example of a polymer having such a group and further does not disclose in the working examples thereof, the performance of a polymer having an alkenyl group.

Specifically, the examples disclosed in Lichtenhan fail to disclose, teach or suggest the performance of the difunctional polyhedral silsequioxanes thereof where R is, for example, an alkenyl group. The presently claimed polymer (A) provides for superior in-plane uniformity, cracking resistance and cracking resistance after PCT, dielectric constant and fluctuation of dielectric constant after PCT.

Furthermore, Lichtenhan discloses that the polymers thereof may find use as thermal insulation. *See* col. 3, lines 9-24. This does not motivate a person of ordinary skill in the art to modify the difunctional polyhedral silsequioxanes thereof into those where the R groups thereof includes at least one of (i) at least one carbon-carbon triple bond; (ii) at least one of a carbon-carbon double bond and a carbon-nitrogen double bond that conjugates with an aromatic group; and (iii) at least one aromatic ring having at least 10 carbon atoms.

AMENDMENT UNDER 37 C.F.R. § 1.111
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With respect to claims 2, 4, and 12-15, these claims depend from claim 1. As such, claims 2, 4, and 12-15 are novel and unobvious for at least the same reasons as claim 1.

Further, with respect to claim 4, Lichtenhan also fails to describe or suggest using an insulating-film forming material to produce an insulating film.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER


Ken Sakurabayashi
Registration No. 58,490

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